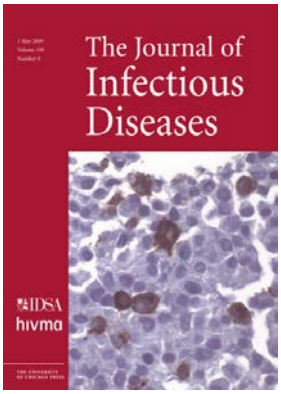
CELEBRATES SCIENCE

DECEMBER 2016

THE SOUTH AFRICAN MEDICAL RESEARCH COUNCIL INFORMATION SERVICES DIVISION

TOP 5 ARTICLES

Director: Prof Shabir Madhi



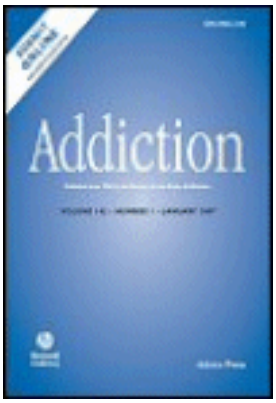
Article:

Dzanibe S, **Adrian PV**, **Kimaro Mlacha SZ**, **Dangor Z**, **Kwatra G**, **Madhi SA**. Reduced trans-placental transfer of group B Streptococcus surface protein antibodies in HIV-infected mother-newborn dyads. Journal of Infectious Diseases. 2016 Dec 08. [Original]
DOI: 10.1093/infdis/jiw566
Impact Factor: 6.344

Summary:

We evaluated the effect of maternal HIV infection on trans-placental antibody transfer specific to eight Group B Streptococcus (GBS) surface protein among 81 HIV-uninfected and 83 HIV-infected mother-newborn pairs using a multiplex immunoassay. Significantly lower antibody titres were detected in HIV-infected mothers and HIV-exposed uninfected newborns compared to HIV-uninfected mother-newborn dyads. Maternal HIV infection was also associated with reduced trans-placental transfer of antibodies for Sip (25.8%), Foldase (30.4%), gba0392 (36.5%), gbs0393 (32.9%), gbs1539 (39.2%), gbs2106 (35.7%) and BibA (19.4%), $p<0.003$. This reduced trans-placental antibody transfer might contribute to increased susceptibility for invasive GBS disease in HIV-exposed uninfected infants.

Director: Prof Charles Parry



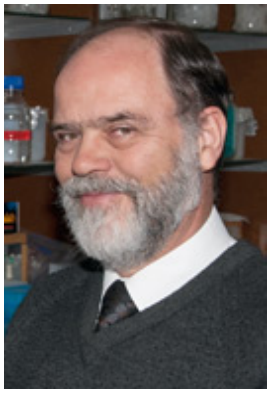
Article:

Morojele NK, **Parry CD**. Commentary on Morgenstern et al. (2017): Party-themed advertisements and initiation of alcohol consumption. Addiction. 2016 Dec 09. [Letter] DOI: 10.1111/add.13671
Impact Factor: 4.972

Summary:

Exposure to party-themed alcohol advertisements seems to be associated with young people's initiation of drinking and binge drinking. The party theme predominates in some distilled spirits advertisements but not in the beer advertisements considered in the paper. Restrictions or total bans on party-themed advertisements are worth considering.

Director: Prof Paul van Helden



Article:

Glanzmann B, **Möller M**, **le Roex N**, **Tromp G**, **Hoal EG**, **van Helden PD**. The complete genome sequence of the African Buffalo (Syncerus Caffer). BMC Genomics. 2016 Dec 7; 17(1): 1001. [Original]
DOI: 10.1186/s12864-016-3364-0
Impact Factor: 3.867

Summary:

Background: The African Buffalo (Syncerus Caffer) is an important role player in the savannah ecosystem. It has become a species of relevance because of its role as a wildlife maintenance host for an array of infectious and zoonotic diseases some of which include corridor disease, foot-and-mouth disease and bovine tuberculosis. To date, no complete genome sequence for S. Caffer had been available for study and the genomes of other species such as the domestic cow (Bos Taurus) had been used as a proxy for any genetics analysis conducted on this species. Here, the high coverage genome sequence of the African Buffalo (S. Caffer) is presented.

Results: A total of 19,765 genes were predicted and 19,296 genes could be successfully annotated to S. Caffer while 469 genes remained unannotated. Moreover, in order to extend a detailed annotation of S. Caffer, gene clusters were constructed using twelve additional mammalian genomes. The S. Caffer genome contains 10,988 gene clusters, of which 62 are shared exclusively between B. Taurus and S. Caffer.

Conclusions: This study provides a unique genomic perspective for the S. caffer, allowing for the identification of novel variants that may play a role in the natural history and physiological adaptations.

Director: Prof Stephen Tollman

Article:

Lippman SA, Neilands TB, MacPhail C, Peacock D, Maman S, Rebombo D, **Twine R**, Selin A, Leslie HH, **Kahn K**, **Pettifor A**. Community mobilization for HIV testing uptake: Results from a community randomized trial of a theory-based intervention in rural South Africa. Journal of Acquired Immune Deficiency Syndromes. 2016 Dec 08. [Original]
DOI: 10.1097/QAI.0000000000001207
Impact Factor: 3.806

Summary

Background: HIV testing uptake in South Africa is below optimal levels. Community Mobilization (CM) may increase and sustain demand for HIV testing, however, little rigorous evidence exists regarding the effect of CM interventions on HIV testing and the mechanisms of action.

Methods: We implemented a theory-driven CM intervention in 11 of 22 randomly-selected villages in rural Mpumalanga Province. Cross-sectional surveys including a community mobilization measure were conducted before (n = 1181) and after (n = 1175) a 2-year intervention (2012-2014). We assessed community-level intervention effects on reported HIV testing using multilevel logistic models. We used structural equation models to explore individual-level effects, specifically whether intervention assignment and individual intervention exposure were associated with HIV testing through community mobilization.

Results: Reported testing increased equally in both control and intervention sites: the intervention effect was null in primary analyses. However, the hypothesized pathway, CM, was associated with higher HIV testing in the intervention communities. Every standard deviation increase in village CM score was associated with increased odds of reported HIV testing in intervention village participants (odds ratio: 2.6, P = <0.001) but not control village participants (odds ratio: 1.2, P = 0.53). Structural equation models demonstrate that the intervention affected HIV testing uptake through the individual intervention exposure received and higher personal mobilization scores.

Conclusions: There was no evidence of community-wide gains in HIV testing due to the intervention. However, a significant intervention effect on HIV testing was noted in residents who were personally exposed to the intervention and who evidenced higher community mobilization. Research is needed to understand whether CM interventions can be diffused within communities over time.

Director: Catherine Mathews

BMC
Medical Research
Methodology

Article:

Odendaal W, Atkins S, **Lewin S**. Multiple and mixed methods in formative evaluation: Is more better? Reflections from a South African study. BMC Medical Research Methodology. 2016 Dec 15; 16(1): 173. [Original]
DOI: 10.1186/s12874-016-0273-5
Impact Factor: 3.059

Summary

Background: Formative programme evaluations assess intervention implementation processes, and are seen widely as a way of unlocking the 'black box' of any programme in order to explore and understand why a programme functions as it does. However, few critical assessments of the methods used in such evaluations are available, and there are especially few that reflect on how well the evaluation achieved its objectives. This paper describes a formative evaluation of a community-based lay health worker programme for TB and HIV/AIDS clients across three low-income communities in South Africa. It assesses each of the methods used in relation to the evaluation objectives, and offers suggestions on ways of optimising the use of multiple, mixed-methods within formative evaluations of complex health system interventions.

Methods: The evaluation's qualitative methods comprised interviews, focus groups, observations and diary keeping. Quantitative methods included a time-and-motion study of the lay health workers' scope of practice and a client survey. The authors conceptualised and conducted the evaluation, and through iterative discussions, assessed the methods used and their results.

Results: Overall, the evaluation highlighted programme issues and insights beyond the reach of traditional single methods evaluations. The strengths of the multiple, mixed-methods in this evaluation included a detailed description and nuanced understanding of the programme and its implementation, and triangulation of the perspectives and experiences of clients, lay health workers, and programme managers. However, the use of multiple methods needs to be carefully planned and implemented as this approach can overstretch the logistic and analytic resources of an evaluation.

Conclusions: For complex interventions, formative evaluation designs including multiple qualitative and quantitative methods hold distinct advantages over single method evaluations. However, their value is not in the number of methods used, but in how each method matches the evaluation questions and the scientific integrity with which the methods are selected and implemented.

---

1. INTRAMURAL RESEARCH UNITS

Alcohol, Tobacco and Other Drug

1. **Morojele NK**, **Parry CD**. Commentary on Morgenstern et al. (2017): Party-themed advertisements and initiation of alcohol consumption. Addiction. 2016 Dec 09. [Letter]
   DOI: 10.1111/add.13671
   Impact Factor: 4.972

2. **Nkosi S**, **Rich EP**, **Kekwaletswe CT**, **Morojele NK**. Experiences of alcohol consumption and taking antiretroviral medication among men living with HIV in Tshwane, South Africa. African Journal of AIDS Research. 2016 Dec 14; 15(4): 367-76. [Original]
   DOI: 10.2989/16085906.2016.1255651
   Impact Factor: 0.716

3. **Morojele NK**, Nkosi S, Kekwaletswe CT, Shuper PA, Manda SO, **Myers B**, **Parry CD**. Utility of brief versions of the Alcohol Use Disorders Identification Test (AUDIT) to identify excessive drinking among patients in HIV care in South Africa. Journal of Studies on Alcohol and Drugs. 2016 Dec 12. [Original]
   Impact Factor: 2.197

Biostatistics

1. Folb N, Bachmann MO, Bateman ED, Steyn K, Levitt NS, Timmerman V, **Lombard C**, Gaziano TA, Fairall LR. Socioeconomic and modifiable predictors of blood pressure control for hypertension in primary care attenders in the Western Cape, South Africa. South African Medical Journal. 2016 Dec 1; 106(12): 1241-1246. [Original]
   DOI: 10.7196/SAMJ.2016.v106.i12.12005
   Impact Factor: 1.500

Centre for Tuberculosis

1. **Glanzmann B**, **Möller M**, **le Roex N**, **Tromp G**, **Hoal EG**, **van Helden PD**. The complete genome sequence of the African Buffalo (Syncerus Caffer). BMC Genomics. 2016 Dec 7; 17(1): 1001. [Original]
   DOI: 10.1186/s12864-016-3364-0
   Impact Factor: 3.867

Environment and Health

1. **Mathee A**, de Jager P, Naidoo S, **Naicker N**. Exposure to lead in South African shooting ranges. Environmental Research. 2016 Dec 02. [Original]
   DOI: 10.1016/j.envres.2016.11.021
   Impact Factor: 3.088

Gender and Health

1. Morrell R, **Dunkle K**, Ibragimov U, **Jewkes R**. Fathers who care and those that don't men and childcare in South Africa. South African Review of Sociology. 2016 Dec 21.
   DOI: 10.1080/21528586.2016.1204240
   Impact Factor: None

Health Systems

1. **Odendaal W**, Atkins S, **Lewin S**. Multiple and mixed methods in formative evaluation: Is more better? Reflections from a South African study. BMC Medical Research Methodology. 2016 Dec 15; 16(1): 173. [Original]
   DOI: 10.1186/s12874-016-0273-5
   Impact Factor: 3.059

2. **Chirinda W**, Zungu N. Health status and years of sexually active life among older men and women in South Africa. Reproductive Health Matters. 2016 Dec 05. [Editorial]
DOI: 10.1016/j.rhm.2016.11.004
Impact Factor: 1.221

HIV Prevention

1. **Daniels B**, Wand H, **Ramjee G**; the MDP Team. Prevalence of Herpes Simplex Virus 2 (HSV-2) infection and associated risk factors in a cohort of HIV negative women in Durban, South Africa. BMC Research Notes. 2016 Dec 12; 9(1): 510. [Original]
DOI: 10.1186/s13104-016-2319-5
Impact Factor: None

Non-Communicable Disease

1. Mazidi M, Rezaie P, Vatanparast H, **Kengne AP**. Effect of statins on serum vitamin D concentrations: A systematic review and meta-analysis. European Journal of Clinical Investigation. 2016 Dec 13. [Review]
DOI: 10.1111/eci.12698
Impact Factor: 2.687

2. **Goedecke JH**, Mtintsilana A, Dlamini SN, **Kengne AP**. Type 2 diabetes mellitus in African women. Diabetes Research and Clinical Practice. 2016 Dec 5; 123: 87-96. [Review]
DOI: 10.1016/j.diabres.2016.11.017
Impact Factor: 3.045

3. **Peer N**, **Kengne AP**. Has there been adequate progress in addressing the NCD epidemic in LMIC? Global Heart. 2016 Dec; 11(4): 433-435. [Letter]
DOI: 10.1016/j.gheart.2016.10.007
Impact Factor: None

4. Mazidi M, Rezaie P, **Kengne AP**, Stathopoulou MG, Azimi-Nezhad M, Siest S. VEGF, the underlying factor for metabolic syndrome; fact or fiction? Diabetes & Metabolic Syndrome. 2016 Dec 9. [Review]
DOI: 10.1016/j.dsx.2016.12.004
Impact Factor: None

5. Carrillo-Larco RM, Miranda JJ, **Kengne AP**. Data pooling efforts in Africa and Latin America. Lancet Global Health. 2016 Dec 10. [Letter]
DOI: 10.1016/S2214-109X(16)30297-2
Impact Factor: 14.722

6. **Faber M**, Wenhold FA, Laurie SM. Dietary diversity and vegetable and fruit consumption of households in a resource-poor peri-urban South Africa community differ by food security status. Ecology of Food and Nutrition. 2016 Dec 15: 1-19. [Original]
Impact Factor: 0.894

7. Osei J, Baumgartner J, Rothman M, Matsungo TM, Covic N, **Faber M**, Smuts CM. Iodine status and associations with feeding practices and psychomotor milestone development in six-month-old South African infants. Maternal and Child Nutrition. 2016 Dec 28. [Original]
DOI: 10.1111/mcn.12408
Impact Factor: 3.505

8. Malambo P, **Kengne AP**, Lambert EV, **de Villiers A**, Puoane T. Prevalence and socio-demographic correlates of physical activity levels among South African adults in Cape Town and Mount Frere communities in 2008-2009. Archives of Public Health. 2016 Dec 29; 74: 54. [Original]
DOI: 10.1186/s13690-016-0167-3
Impact Factor: None

South African Cochrane Centre

1. Dizon JM, Grimmer K, Louw Q, **Kredo T**, **Young T**, **Machingaidze S**. South African Guidelines Excellence (SAGE): Adopt, adapt, or contextualise? South African Medical Journal. 2016 Dec 1; 106(12): 1177-1178. [Other]
DOI: 10.7196/SAMJ.2016.v106.i12.11374
Impact Factor: 1.500

Violence, Injury and Peace

1. **Koekemoer K**, **van Gesselleen M**, **van Niekerk A**, **Govender R**, van As AB. Child pedestrian safety knowledge, behaviour and road injury in Cape Town, South Africa. Accident Analysis and Prevention. 2016 Dec 10. [Original]
DOI: 10.1016/j.aap.2016.11.020
Impact Factor: 2.070

2. **Taliep N**, **Lazarus S**, **Seedat M**, Cochrane JR. The role of religious leaders in anti-Apartheid mobilisation: Implications for violence prevention in contemporary South Africa. Religion, State and Society. 2016 Dec 15. [Original]
DOI: 10.1080/09637494.2016.1242890
Impact Factor: None

2. EXTRAMURAL RESEARCH UNITS

Anxiety and Stress Disorders/Risk and Resilience in Mental Disorder

1. Ipser JC, **Uhlmann A**, Taylor P, Harvey BH, Wilson D, **Stein DJ**. Distinct intrinsic functional brain network abnormalities in methamphetamine-dependent patients with and without a history of psychosis. Addiction Biology. 2016 Dec 05. [Original]
   DOI: 10.1111/adb.12478
   Impact Factor: 4.547

2. Paul RH, Phillips S, Hoare J, Laidlaw DH, Cabeen R, Olbricht GR, Su Y, Stein DJ, Engelbrecht S, **Seedat S**, Salminen LE, Baker LM, Heaps J, Joska J. Neuroimaging abnormalities in clade C HIV are independent of Tat genetic diversity. Journal of Neurovirology. 2016 Dec 02. [Original]
   DOI: 10.1007/s13365-016-0503-y
   Impact Factor: 2.569

Developmental Pathways for Health

1. **Chivese T**, Mahmoud W, Magodoro I, Kengne AP, **Norris SA**, Levitt NS. Prevalence of type 2 diabetes mellitus in women of childbearing age in Africa during 2000-2016: Protocol of a systematic review and meta-analysis. BMJ Open. 2016 Dec 13; 6(12): e012255. [Original]
   DOI: 10.1136/bmjopen-2016-012255
   Impact Factor: 2.562

Herbal Drugs

1. **Combrinck S**, Atlabachew M, Sandasi M, Chen W, **Viljoen A**. Separating the old from the new; rapid differentiation of Catha Edulis (Vahl. Endl.) using single point and imaging vibrational spectroscopy. Planta Medica. 2016 Dec; 81(S 01): S1-S381.
   Impact Factor: 1.990

HIV/TB Pathogenesis and Treatment

1. **O'Donnell MR**, **Padayatchi N**, Metcalfe JZ. Elucidating the role of clofazimine for the treatment of tuberculosis. International Journal of Tuberculosis and Lung Disease. 2016 Dec 01; 20(12): S52-S7. [Original]
   DOI: 10.5588/ijtld.16.0073
   Impact Factor: 2.148

Respiratory and Meningeal Pathogens

1. Kobayashi M, Schrag SJ, Alderson MR, **Madhi SA**, Baker CJ, Sobanjo-Ter Meulen A, Kaslow DC, Smith PG, Moorthy VS, Vekemans J. WHO consultation on group B Streptococcus vaccine development: Report from a meeting held on 27-28 April 2016. Vaccine. 2016 Dec 22. [Original]
   DOI: 10.1016/j.vaccine.2016.12.029
   Impact Factor: 3.413

2. **Dzanibe S**, **Adrian PV**, **Kimaro Mlacha SZ**, **Dangor Z**, **Kwatra G**, **Madhi SA**. Reduced trans-placental transfer of group B Streptococcus surface protein antibodies in HIV-infected mother-newborn dyads. Journal of Infectious Diseases. 2016 Dec 08. [Original]
   DOI: 10.1093/infdis/jiw566
   Impact Factor: 6.344

3. Barger-Kamate B, Deloria Knoll M, Kagucia EW, Prosperi C, Baggett HC, Brooks WA, Feikin DR, Hammitt LL, Howie SR, Levine OS, **Madhi SA**, Scott JA, Thea DM, Amornintapichet T, Anderson TP, Awori JO, **Baillie VL**, Chipeta J, DeLuca AN, Driscoll AJ, Goswami D, Higdon MM, Hossain L, Karron RA, Maloney S, **Moore DP**, Morpeth SC, Mwananyanda L, Ofordile O, Olutunde E, Park DE, Sow SO, Tapia MD, Murdoch DR, O'Brien KL, Kotloff KL. Pertussis-associated pneumonia in infants and children from Low- and Middle-Income Countries participating in the PERCH Study. Clinical Infectious Diseases. 2016 Dec 01; 63(suppl 4): S187-S96. [Original]
DOI: 10.1093/cid/ciw546
Impact Factor: 8.736

Rural Public Health and Health Transition

1. **Lippman SA**, Neilands TB, MacPhail C, Peacock D, Maman S, Rebombo D, **Twine R**, Selin A, Leslie HH, **Kahn K**, **Pettifor A**. Community mobilization for HIV testing uptake: Results from a community randomized trial of a theory-based intervention in rural South Africa. Journal of Acquired Immune Deficiency Syndromes. 2016 Dec 08. [Original]
DOI: 10.1097/QAI.0000000000001207
Impact Factor: 3.806

2. Rosenberg MS, **Gomez-Olive FX**, Rohr JK, **Houle BC**, **Kabudula CW**, **Wagner RG**, Salomon JA, **Kahn K**, **Berkman LF**, **Tollman SM**, Barnighausen T. Sexual behaviors and HIV status: A population-based study among older adults in rural South Africa. Journal of Acquired Immune Deficiency Syndromes. 2016 Dec 08. [Original]
DOI: 10.1097/QAI.0000000000001173
Impact Factor: 3.806

3. GRANT FUNDED RESEARCH

1. Gregson J, Kaleebu P, Marconi VC, van Vuuren C, Ndembi N, Hamers RL, Kanki P, Hoffmann CJ, Lockman S, Pillay D, **de Oliveira T**, Clumeck N, Hunt G, Kerschberger B, Shafer RW, Yang C, Raizes E, Kantor R, Gupta RK. Occult HIV-1 drug resistance to thymidine analogues following failure of first-line tenofovir combined with a cytosine analogue and nevirapine or efavirenz in sub Saharan Africa: A retrospective multi-centre cohort study. Lancet Infectious Diseases. 2016 Dec 01. [Original]
   DOI: 10.1016/S1473-3099(16)30469-8
   Impact Factor: 21.372

4. RESEARCH UNITS WITH NO QUALIFYING PUBLICATIONS

Intramural

- Biomedical Research and Innovation Platform
- Burden of Disease
- MRC Office of AIDS
- MRC Office of Cancer
- MRC Office of Malaria
- MRC Office of Tuberculosis

Extramural

- Antiviral Gene Therapy
- Bioinformatics Capacity Development
- Child and Adolescent Lung Health
- Common Epithelial Cancer
- Diarrhoeal Pathogens
- Drug Discovery and Development
- Gynaecological Cancer
- Health Services to Systems
- Human Genetics
- Hypertension and Cardiovascular Disease
- Immunology of Infectious Disease
- Maternal and Infant Health Care Strategies
- Medical Imaging
- Microbial Water Quality Monitoring
- Molecular Mycobacteriology
- Prospective Gastrointestinal Cancer
- Receptor Biology
- Stem Cell Research and Therapy

5. GRANTS AWARDED

SAMRC LIST OF CONTRACTS FOR DECEMBER 2016					
SAMRC Unit	**Funder**	**Main Funder**	**Project Title/Description**	**Contract Value**	
				Rand	**Foreign Currency**
ATODRU	National Research Foundation (NRF)	National Research Foundation (NRF)	Parental or Caregiver Brief Intervention for Reducing Adolescent Substance Use and Other Risk Behaviour	243 550	-
Biostatistics	Tufts University	USAID	Nutrition Capacity Development to Meet National Priorities	1 088 776	$65 000
Biomedical Research and Innovation Platform	Medical Diagnostech (Pty) Ltd	Medical Diagnostech (Pty) Ltd	Early Markers for Diabetes: Identification of Markers in Human Subjects	570 000	-
Grants Innovation & Product Development	MRC UK	MRC UK	To facilitate closer collaboration in AMR research between the UK and South Africa.	4 906 152	£360 000
Health Systems	Clinton Health Access Initiative (CHAI)	Clinton Health Access Initiative (CHAI)	Consultancy – To project the HRH need for South Africa in 2025	247 800	-
	The University of North Carolina at Chapel Hill	The International Aids Society	VUKA Ekhaya: A take home family intervention adherence and reduce behavioural risk among parentally HIV infected youth (CIPHER Grant)	694 125	$50 933
	United Way Worldwide	Lilly MDR-TB Partnership	New models of care for drug resistant TB in South Africa Program	1 533 908	$112 554
	UNICEF	UNICEF	Progress towards achieving the double dividend of eliminating MTCT and improving maternal and child health	881 918	
HIV Prevention	Fred Hutchinson Cancer Research	National Institute of Allergy and Infectious Diseases	HTVN 702 Protocol Funding (PF): Isipingo	1 633 776	$119 882
	Fred Hutchinson Cancer Research	National Institute of Allergy and Infectious Diseases	NTVN 702 Protocol Funding (PF): Verulam Protocol-Specific Site	1 712 152	$125 633
Strategic Research	Department of Science & Technology (DST)	Department of Science & Technology (DST)	South African –Sudan Collaboration for Drug Research and Development from Natural Products and Diagnostic Development.	1 000 000	-

Published by Information Services Division
South African Medical Research Council
PO Box 19070, Tygerberg 7505,
Cape Town, South Africa,
Francie van Zijl Drive, Parow Valley, Cape Town
www.mrc.ac.za

Please send questions, comments and grant news to enews@mrc.ac.za